

VGN-A140/A140B/A140P/A150/A160/A190F  
 VGN-A115M/A115Z  
 VGN-A17CP/A19GP/A19LP/A19SP/A19TP

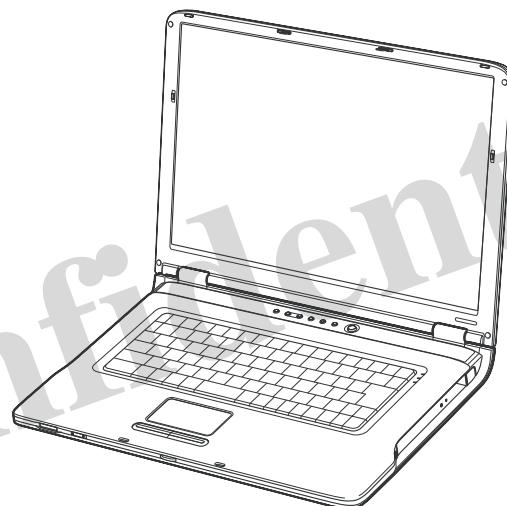
# SERVICE MANUAL

Ver 5 -2004H

## Revision History

Area	Model	Line up
American	US	VGN-A140* VGN-A140B* VGN-A140P* VGN-A150 VGN-A160
	Canadian	△[MA] △[MA] △[MA]
European	AEP	VGN-A115M
	UK	VGN-A115Z
Asian/Oceania/ South Africa	International	VGN-A19GP
	Thai	VGN-A19SP
	Korean	VGN-A19LP
	China	VGN-A17CP
	Taiwan	VGN-A19TP

\*: CTO Model △[MA]



- Design and specifications are subject to change without notice.
- 本機の仕様および外観は、改良のため予告なく変更することがあります、ご了承ください。

PERSONAL COMPUTER

SONY®

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All other names of systems, products and services in this manual are trademarks or registered trademarks of their respective owners. In this manual, the (TM) or (R) mark are not specified.

**Caution Markings for Lithium/Ion Battery** - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**CAUTION:** The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.

Dispose of used battery promptly.  
Keep away from children.

**CAUTION:** Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilatation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

## **Service and Inspection Precautions**

### **1. Obey precautionary markings and instructions**

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

### **2. Use designated parts only**

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the  $\triangle$  mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

### **3. Always follow the original design when mounting parts and routing wires**

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

### **4. Inspect after completing service**

After servicing, inspect to make sure that all

screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

### **5. When replacing chip components...**

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

### **6. When handling flexible print boards...**

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

### **ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**

**LES COMPOSANTS IDENTIFIÉS PAR UNE  
MARQUE  $\triangle$  SUR LES DIAGRAMMES  
SCHÉMATIQUES ET LA LISTE DES PIÈCES  
SONT CRITIQUES POUR LA SÉCURITÉ DE  
FONCTIONNEMENT. NE REMPLACER CES  
COMPOSANTS QUE PAR DES PIÈSES SONY  
DONT LES NUMÉROS SONT DONNÉS DANS  
CE MANUEL OU DANS LES SUPPÉMENTS  
PUBLIÉS PAR SONY.**

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VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A115M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>CHAPTER 1. SPECIFICATIONS</b>					
1-1.	SPECIFICATIONS .....	1-1	LCD		
1-2.	CTO Information .....	1-2	L-1.	LCD – Made by HI – .....	4-10
1.	1. VGN-A140* .....	1-2	Accessories		
2.	2. VGN-A140B* .....	1-2	A-1 .....	4-12	
3.	3. VGN-A140P* .....	1-3	A-2 .....	4-13	
		(to 1-3)	DIP Switch .....	4-15	
					(to 4-15)
<b>CHAPTER 2. BLOCK DIAGRAM</b>					
2-1.	VGN-A series .....	2-1	<b>CHAPTER 5. OTHERS</b>		
2-2.	Port Replicator (VGP-PRAV1) .....	2-2	5-1.	The Barcode Label .....	5-1
		(to 2-2)	5-2.	Replacing the CPU .....	5-2
			1.	Removing the CPU .....	5-2
			2.	Installing the CPU .....	5-2
			5-3.	Wiring the W-LAN CABLE .....	5-3
					(to 5-3)
<b>CHAPTER 3. FRAME HARNESS DIAGRAM</b>					
3-1.	VGN-A series .....	3-1	History of the changes is shown as the "Revision History" at the end of this data.		
3-2.	Port Replicator (VGP-PRAV1) .....	3-2			
		(to 3-2)			
<b>CHAPTER 4. EXPLODED VIEWS AND PARTS LIST</b>					
Palmrest					
P-1.	Palmrest .....	4-2	変更履歴は、"Revision History"として、本データ末に記載しております。		
Main Board					
M-1.	Main Board .....	4-4			
Bottom					
B-1.	Bottom .....	4-6			
Optical Drive					
D-1.	Optical Drive .....	4-8			

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VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A115M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

# CHAPTER 1.

## SPECIFICATIONS

### 1-1. Specifications

		AM		EU	
CPU	VGN-A160 Pentium-M 1.5A(D)	VGN-A150 Pentium-M 1.5A(D)	VGN-A140*/A140B*/A140P* *1)	VGN-A190F Pentium-M 1.5A(D)	VGN-A115Z Pentium-M 1.6A(D)
Graphic	Mobility Radeon 9200	Mobility Radeon 9200	Mobility Radeon 9200	Mobility Radeon 9200	Mobility Radeon 9200
LCD	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)	15.4"WXGA (Clear Black)
HDD	80GB	80GB	80GB(5400rpm)/80GB/60GB/40GB	60GB	60GB
MEMORY(Slot1)	256MB DDR333	256MB DDR333	*2)	256MB DDR333	256MB DDR333
MEMORY(Slot2)	256MB DDR333	256MB DDR333		256MB DDR333	256MB DDR333
QUANTITY(STANDARD/MAX)	512MB/2GB	512MB/2GB		512MB/2GB	512MB/2GB
OPT-DRIVE	DVD+/-RW	DVD+/-RW	DVD+/-RW Combo	DVD+/-RW	DVD+/-RW
AC adaptor	AC19V7	AC19V3	AC19V7/AC19V3	AC19V3	AC19V3
Battery	BP2EA	BP2EA	BP2EA	BP2EA	BP2EA
Wireless LAN	O	O	O/X	O	O
Bluetooth	X	X	X	O	X
AV PR	O	X	O/X	X	X
W-Mouse	X	X	O/X	X	X
Memory Card Adapter	X	X	O/X	X	X
Remote Controller	O	X	O/X	X	X
OS	XP Home	XP Home	XP Pro/XP Home	XP Home	XP Home

△[MA] \*1)Mobile Cel 1.4(B),Pentium-M 1.5(B),Pentium-M 1.5A(D),Pentium-M 1.7(D),Pentium-M 1.8(D),Pentium-M 2.0(D)

\*2)256MB\*1,256MB\*1,512MB\*2,1024MB\*1,1024MB\*2

△[MA]

△[MA] △[MA] △[MA]

AO					
	VGN-A19GP	VGN-A19LP	VGN-A19SP	VGN-A19TP	VGN-A17CP
CPU	Pentium-M 1.6A(D)				
Graphic	Mobility Radeon 9200				
LCD	15.4"WXGA (Clear Black)				
HDD	60GB	60GB	60GB	60GB	60GB
MEMORY(Slot1)	512MB DDR333				
MEMORY(Slot2)	-	-	-	-	-
QUANTITY(STANDARD/MAX)	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB	512MB/2GB
OPT-DRIVE	DVD+/-RW	DVD+/-RW	DVD+/-RW	DVD+/-RW	DVD+/-RW
AC adaptor	AC19V3	AC19V3	AC19V3	AC19V3	AC19V3
Battery	BP2EA	BP2EA	BP2EA	BP2EA	BP2EA
Wireless LAN	O	O	O	O	O
Bluetooth	X	X	X	X	X
AV PR	X	X	X	X	X
W-Mouse	X	X	X	X	X
Memory Card Adapter	X	X	X	X	X
Remote Controller	X	X	X	X	X
OS	XP Pro				

△[MA]

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• The trademarks or registered trademarks of above table, refer to page 2.

△[MA] • The model that is accompanied by asterisk (\*) is the CTO model  
For the equipment configuration, refer to the CTO Information.

• 本表中の商標・登録商標については、2ページをご参照ください。

△[MA] • 機種名に(\*)がつくのは CTO モデルです。  
組み合わせについて、CTO Information ご確認ください。

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VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A115M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## 1-2. CTO Information

### 1. VGN-A140 \*

Model name : VGN-A140(American Area)

OS:WindowsXP Home

Ver.1.0

<b>LCD</b>	<b>15.4"WXGA+(Clear Black)</b> A-1072-41-A ASSY LCD(15.4WXGA)(H)(S)
<b>CPU</b>	<b>Pentium-M2.0(D)</b> 6-706-559-01 RH 80536GC0412MSL7EM(P-M2.0)
<b>Memory</b>	<b>2GB(1024MBx2)</b> 6-706-244-01 IC EBD11UD8ADDA-6B(1GB)
<b>HDD</b>	<b>80GB(5400rpm)</b> A-1062-140-A HDD (80GB, HTS548080M9AT00)(S)
<b>Optical</b>	<b>DVD+RW</b> 8-457-575-40 DRIVE, DVD DW-U54A-VS/T
<b>TV TUNER (PortReplicator)</b>	<b>VGP-PRAV1</b> None
<b>W-LAN</b>	<b>802.11bg</b> I-761-864-12 WIRELESS LAN CARD
<b>Bluetooth</b>	None
<b>W-MOUSE</b>	<b>Wireless Mouse</b> I-796-824-31 MOUSE (SLV)
<b>Memory Card Adapter</b>	<b>VGP-MCA10</b> None
<b>Remote Controller</b>	<b>RM-GP5U</b> I-478-300-21 IR COMMANDER RM-GP5U

### 2. VGN-A140B \*

Model name : VGN-A140B(American Area)

OS:WindowsXP Pro(SMB)

Ver.1.0

<b>LCD</b>	<b>15.4"WXGA+(Clear Black)</b> A-1072-41-A ASSY LCD(15.4WXGA)(H)(S)
<b>CPU</b>	<b>Pentium-M2.0(D)</b> 6-706-559-01 RH 80536GC0412MSL7EM(P-M2.0)
<b>Memory</b>	<b>2GB(1024MBx2)</b> 6-706-244-01 IC EBD11UD8ADDA-6B(1GB)
<b>HDD</b>	<b>80GB(5400rpm)</b> A-1062-140-A HDD (80GB, HTS548080M9AT00)(S)
<b>Optical</b>	<b>DVD+RW</b> 8-457-575-40 DRIVE, DVD DW-U54A-VS/T
<b>TV TUNER (PortReplicator)</b>	<b>VGP-PRAV1</b> None
<b>W-LAN</b>	<b>802.11bg</b> I-761-864-12 WIRELESS LAN CARD
<b>Bluetooth</b>	None
<b>W-MOUSE</b>	<b>Wireless Mouse</b> I-796-824-31 MOUSE (SLV)
<b>Memory Card Adapter</b>	<b>VGP-MCA10</b> None
<b>Remote Controller</b>	<b>RM-GP5U</b> I-478-300-21 IR COMMANDER RM-GP5U

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VGN-A140/A140B/A140P/A150/A160/A190F (AM)

VGN-A115M/A115Z (EU)

VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## 3. VGN-A140P \*

Model name : VGN-A140P(American Area)

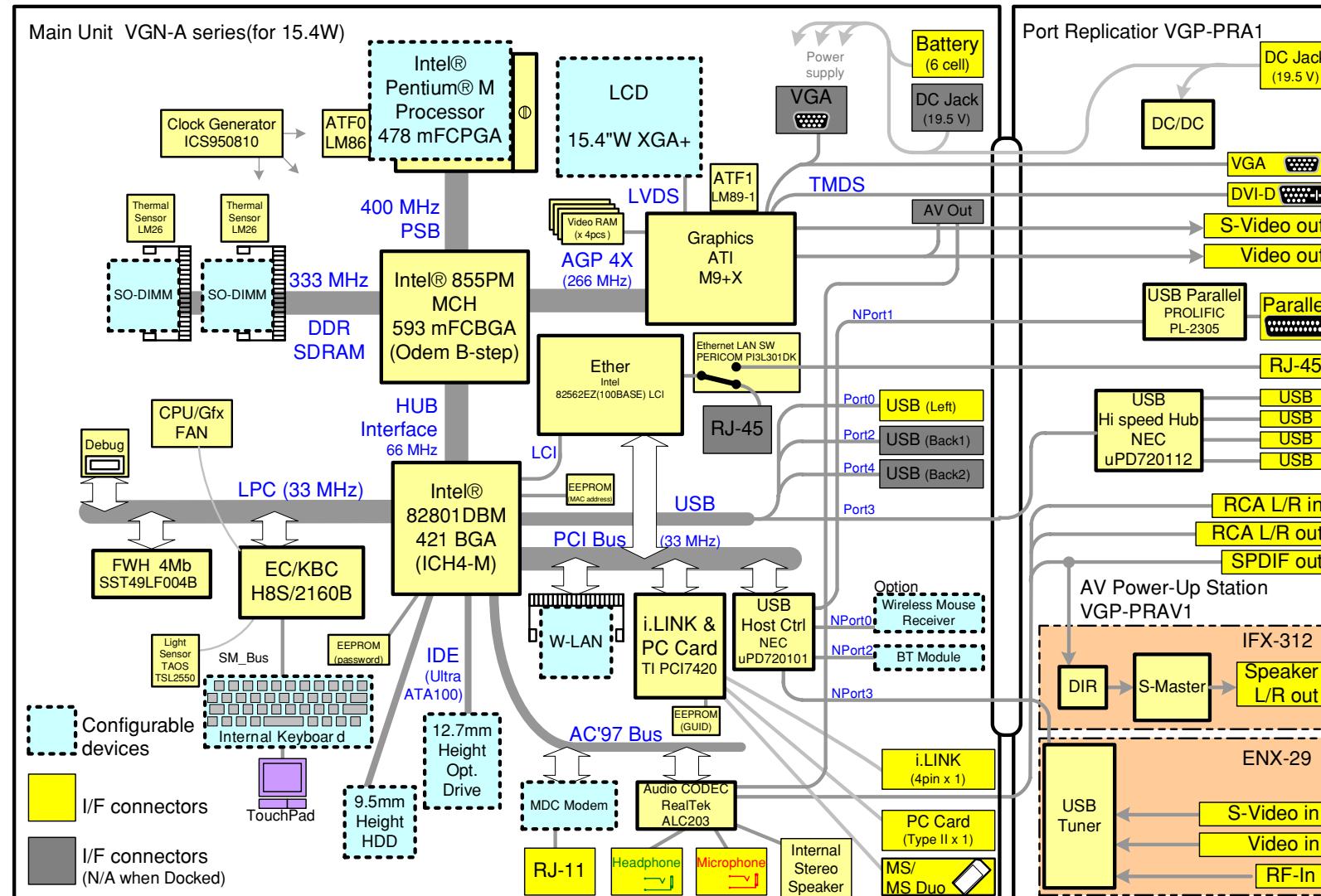
OS:WindowsXP Pro

Ver.1.0

LCD	15.4"WXGA+(Clear Black) A-1072-41-A ASSY LCD(15.4WXGA)(H)(S)
CPU	Pentium-M2.0(D) 6-706-559-01 RH 80536GC0412MSL7EM(P-M2.0)
Memory	Pentium-M 1.8(D) 6-600-306-01 IC RH80536GC0332M(P-M1.8)
HDD	2GB(1024MBx2) 6-706-244-01 IC EBD11UD8ADDA-6B(1GB)
Optical	80GB A-1062-140-A HDD (80GB,HTS548080M9AT00)(S)
TV TUNER (PortReplicator)	Combo 8-457-270-10 DRIVE: DVD DW-U54A-VS/T
W-LAN	802.11b/g 1.761.864.12 WIRELESS LAN CARD
Bluetooth	None
W-MOUSE	Wireless Mouse 1.796.824.31 MOUSE (SLV)
Memory Card Adapter	VG-P-MCA10
Remote Controller	RM-GPSU 1-478-300-21 IR COMMANDER RM-GPSU

## CHAPTER 2. BLOCK DIAGRAM

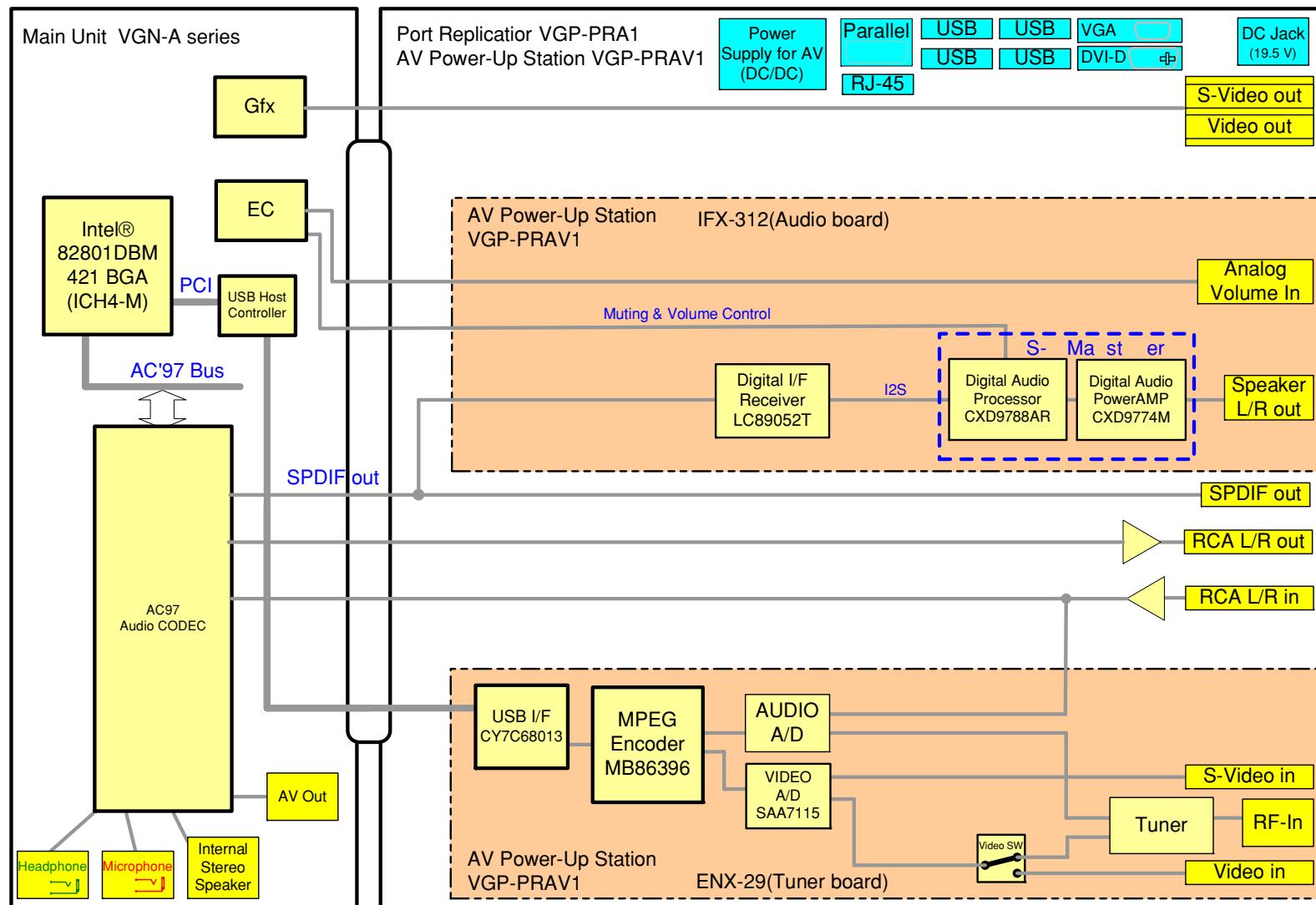
### 2-1. VGN-A series



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VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A15M/A15Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## 2-2. Port Replicator (VGP-PRAV1)



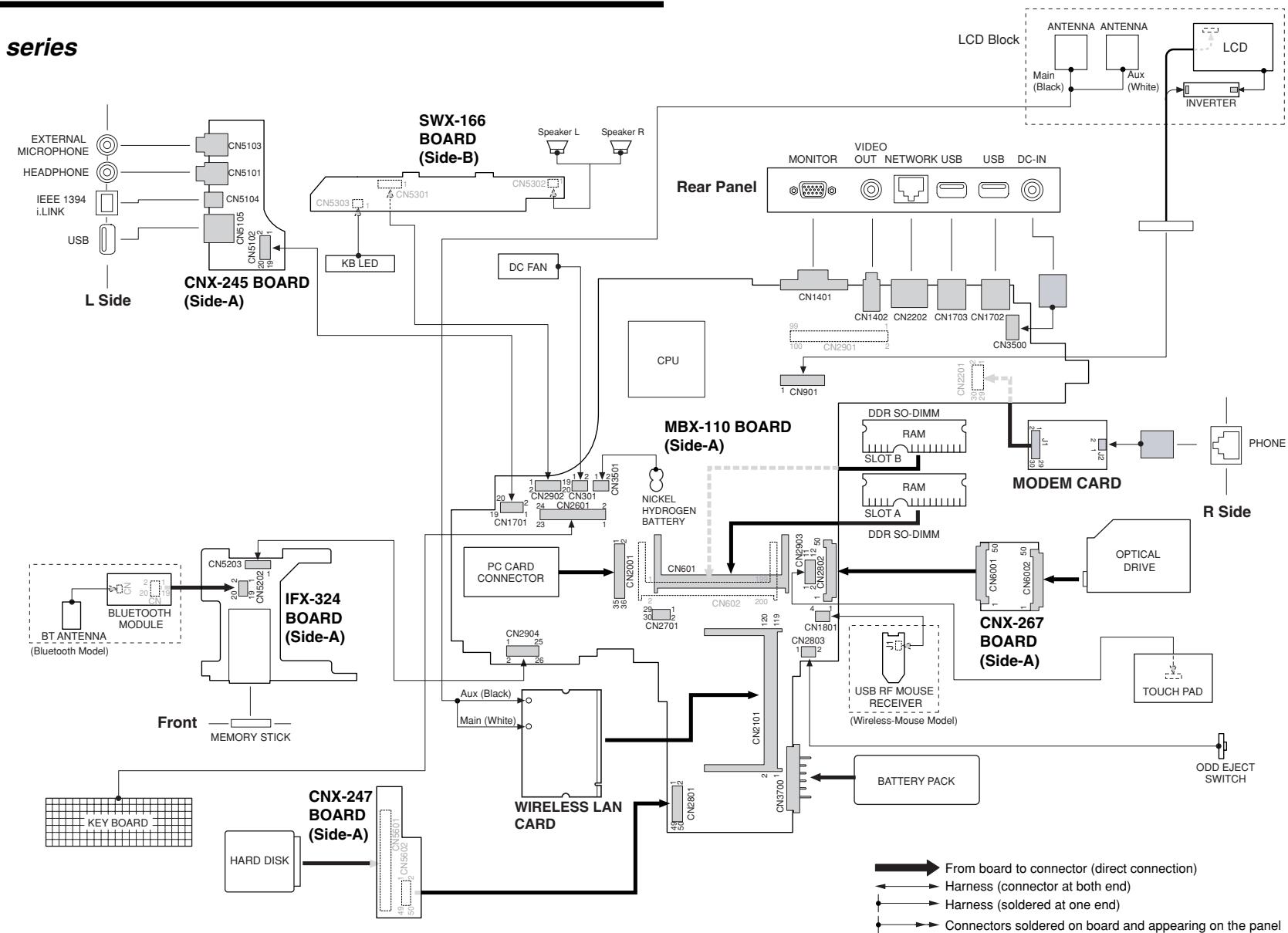
Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A15M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

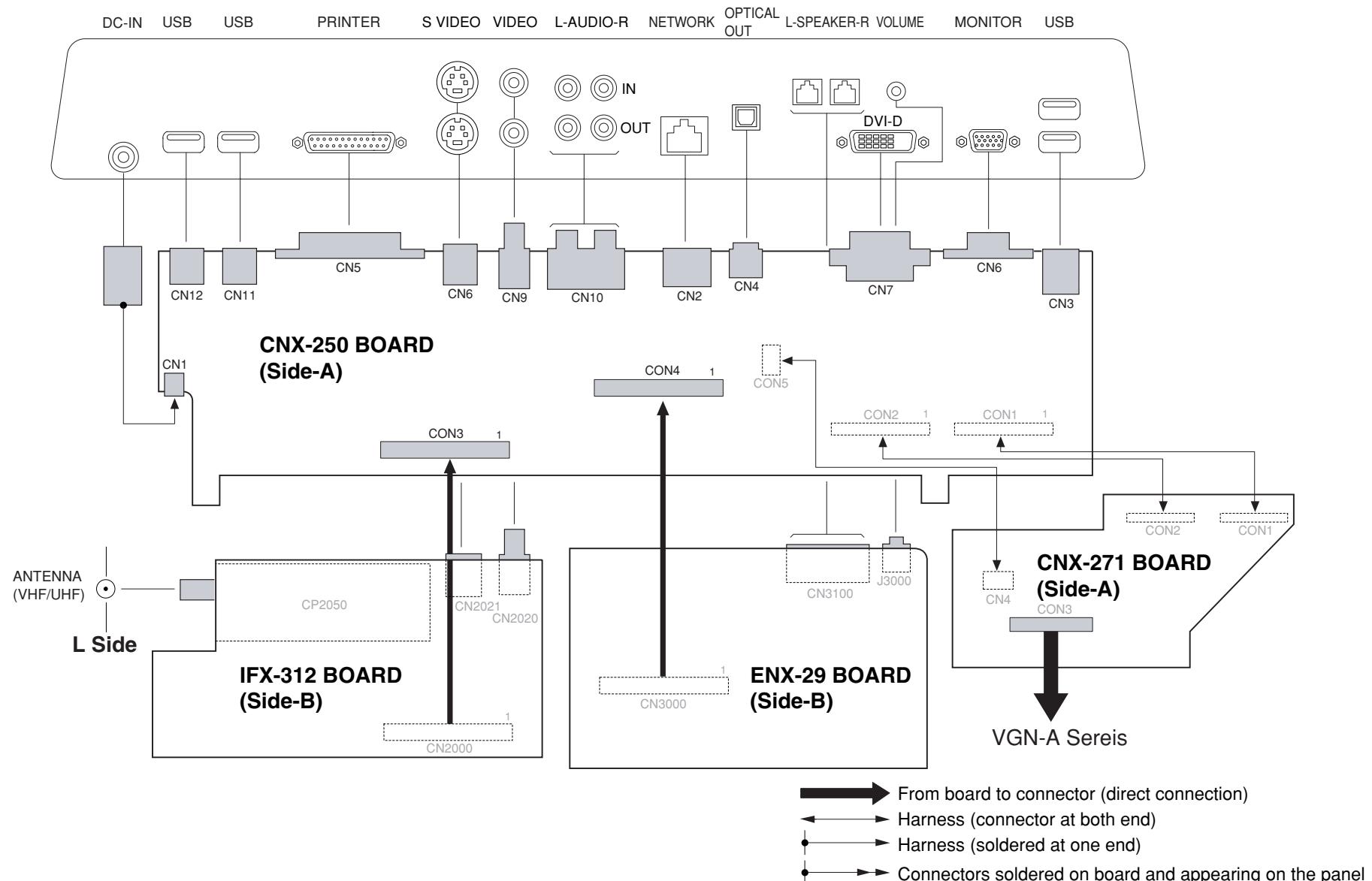
# CHAPTER 3.

## FRAME HARNESS DIAGRAM

### 3-1. VGN-A series



### 3-2. Port Replicator (VGP-PRAV1)



# CHAPTER 4.

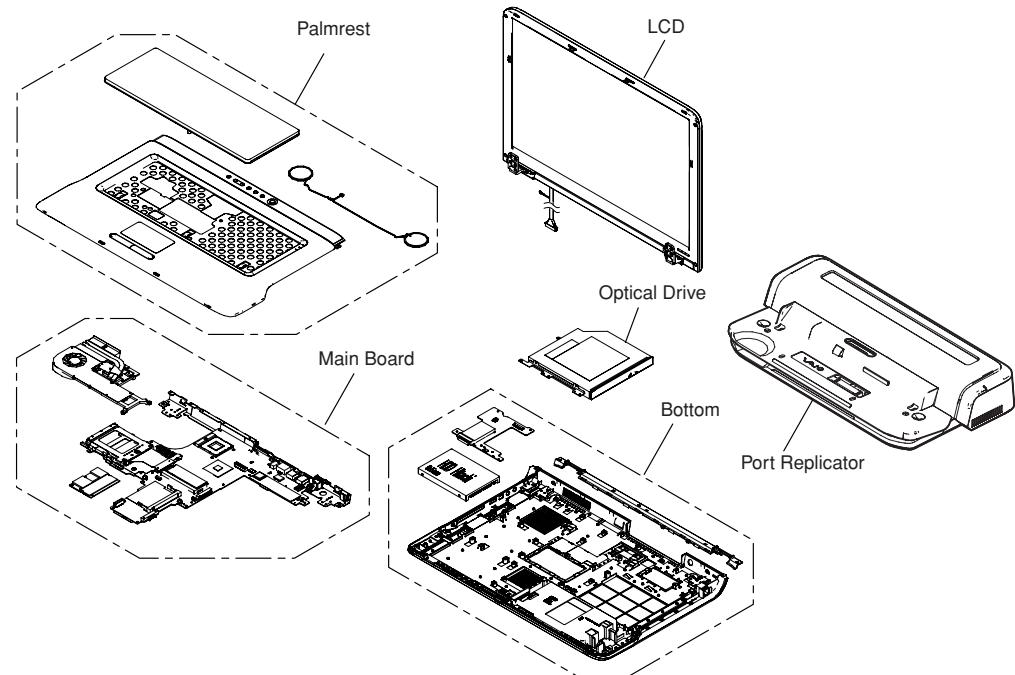
## EXPLODED VIEWS AND PARTS LIST

- The parts list is compiled by blocks of a palmrest and bottom etc. The sections of the parts list are different depending on the model. Please refer to list of contents shown in the below.

Section	Page
<b>Palmrest</b>	
P-1. Palmrest .....	4-2
<b>Main Board</b>	
M-1. Main Board .....	4-4
<b>Bottom</b>	
B-1. Bottom .....	4-6
<b>Optical Drive</b>	
D-1. Optical Drive .....	4-8

- 分解図と部品表は、パームレスト、ボトムなどのブロックごとに分かれています。機種によって部品表のセクションが異なりますので、詳細は右下の一覧表を参照してください。

Section	Page
<b>LCD</b>	
L-1. LCD – Made by HI – .....	4-10
<b>Accessories</b>	
A-1 .....	4-12
A-2 .....	4-13
<b>DIP Switch</b>	
.....	4-15



### 【使用上の注意】

- \* 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に\$印のついた部品は、High Value Module (HVM)です。
- 商品名称の前に#印のついた部品は、バーコードラベル貼付部品です。  
バーコードラベルについてはCHAPTER5を参照してください。
- 部品名称の前に&印のついた部品は、お客様窓口などでも交換可能なCustomer Replaceable Parts (CRP)です。  
特に<&>印のついた部品は、使い分けが必要な部品ですので、分解図でCustomer Replaceable Parts 対象部品か、対象外部品かを必ず御確認ください。
- 本モデルの基板については、基板上の各部品の修理は行うことができません。ただし、一部のコネクタについては、修理可能です。
- 機種名に(\*)がつくのは CTO モデルです。  
組み合わせについては、CTO Informationを御確認ください。

For the equipment configuration, refer to the CTO Information.

The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.  
Replace only with part number specified.

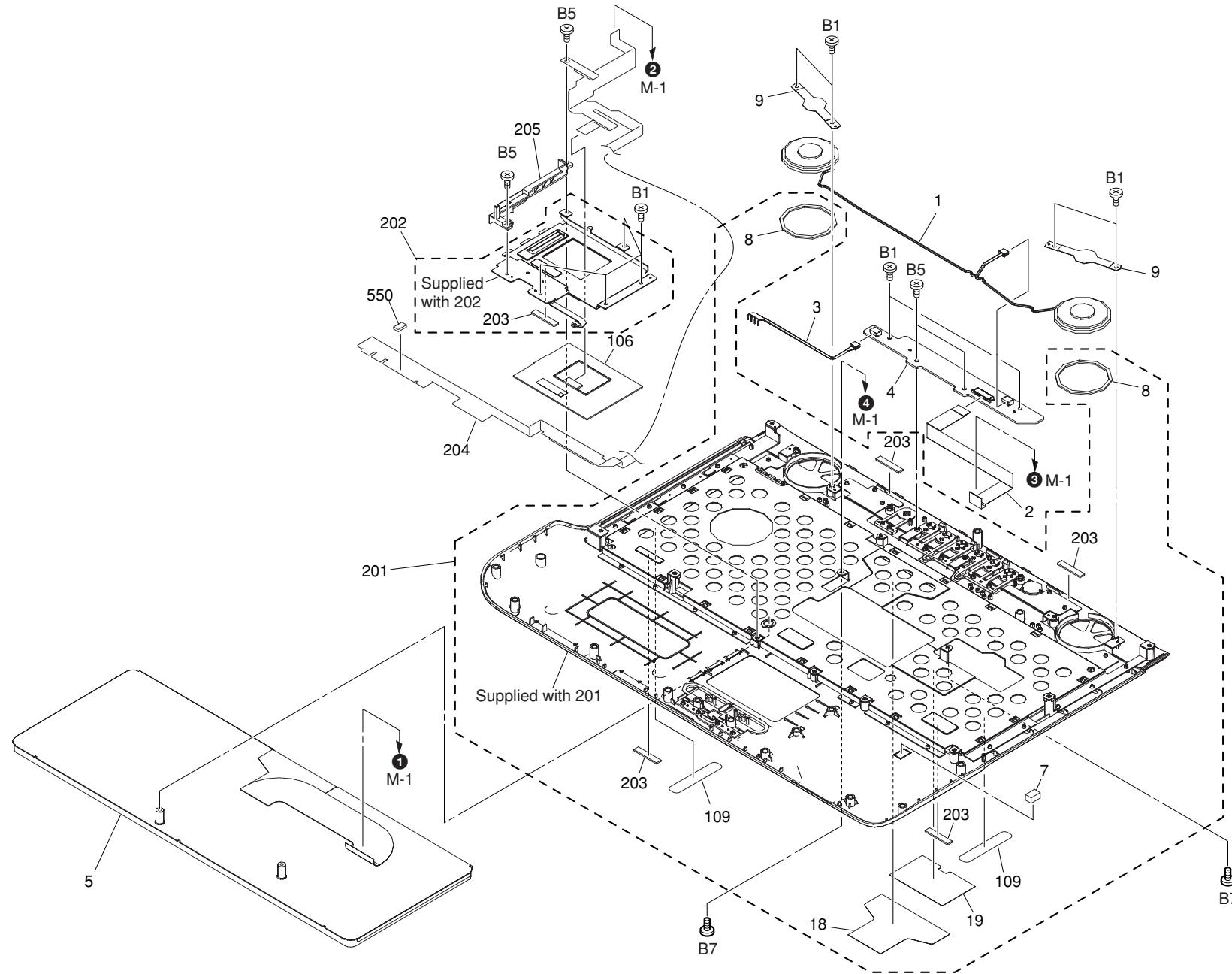
Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

$\triangle$ 印の部品、または $\triangle$ 印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用してください。

	Palmrest	Main Board	Bottom	Optical Drive	LCD	Accessories	Port Replicator	
AM	A140*	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A140B*	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A140P*	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A150	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A160	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A190F	P-1	M-1	B-1	D-1	L-1	A-1	A-2
EU	A115M	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A115Z	P-1	M-1	B-1	D-1	L-1	A-1	A-2
AO	A19GP	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A19SP	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A19LP	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A17CP	P-1	M-1	B-1	D-1	L-1	A-1	A-2
	A19TP	P-1	M-1	B-1	D-1	L-1	A-1	A-2

\* : CTO Model

## **P-1. Palmrest**



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VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A115M/A115Z (EU)  
**VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)**

## P-1. Palmrest

Ref.No.	Part No.	Description
1	A-1067-956-A	SE/SE+ SPEAKER SET
2	A-1058-413-A	CABLE(20P), FLEXIBLE FLAT
3	A-1058-417-A	CABLE, KB LED
4	A-8068-824-A \$	COMPLETE PWB SWX-166
7	4-682-423-01	SE1 SPONGE BT
8	2-159-644-01	SE1P SHEET SPEAKER RING
9	4-682-556-01	SE1P SPEAKER BRACKET
18	2-103-689-01	SE1P KEYBOARD BRACKET MYLAR A
19	2-103-690-01	SE1P KEYBOARD BRACKET MYLAR B
106	1-796-319-72	PAD,TOUCH
109	2-159-976-01	SE1 MYLAR KEYBOARD
201	X-2021-746-1	SEM PALM SUB ASSY
202	X-2021-752-1	SEM TOUCHPAD BRACKET ASSY
203	4-676-956-01	GASKET T/P CONTACT
204	A-1067-142-A	TP(M),FLEXIBLE PRINT
205	2-050-875-01	SEM T/P HOOK
550	2-159-787-01	SE1 SPONGE LENS
B1	4-672-836-01	SCREW, M2 SPECIAL HEAD,EG GRIP
B5	4-672-836-11	SCREW, M2 SPECIAL HEAD,EG GRIP
B7	4-644-637-21	GRIP M2 EG

Ref.No.	Part No.	Description	AM		EU		AO							
			A160	A150	A140*	A140B*	A140P*	A190F	A115Z	A115M	A19GP	A19LP	A19SP	A19TP
	5	1-478-650-21	KEYBOARD UNIT (US)	●	●	●	●	●			●			●
	5	1-478-650-31	KEYBOARD UNIT (LA)					●						
	5	1-478-650-41	KEYBOARD UNIT (KR)								●			
	5	1-478-650-51	KEYBOARD UNIT (TH)									●		
	5	1-478-650-61	KEYBOARD UNIT (TW)										●	
	5	1-478-640-31	KEYBOARD UNIT (CH)						●	●				
	5	1-478-640-21	KEYBOARD UNIT (DE)		●	●	●							
	5	1-478-640-61	KEYBOARD UNIT (ES)		●	●	●							
	5	1-478-640-41	KEYBOARD UNIT (FR)		●	●	●							
	5	1-478-640-11	KEYBOARD UNIT (GB)		●	●	●							
	5	1-478-640-51	KEYBOARD UNIT (IT)		●	●	●							

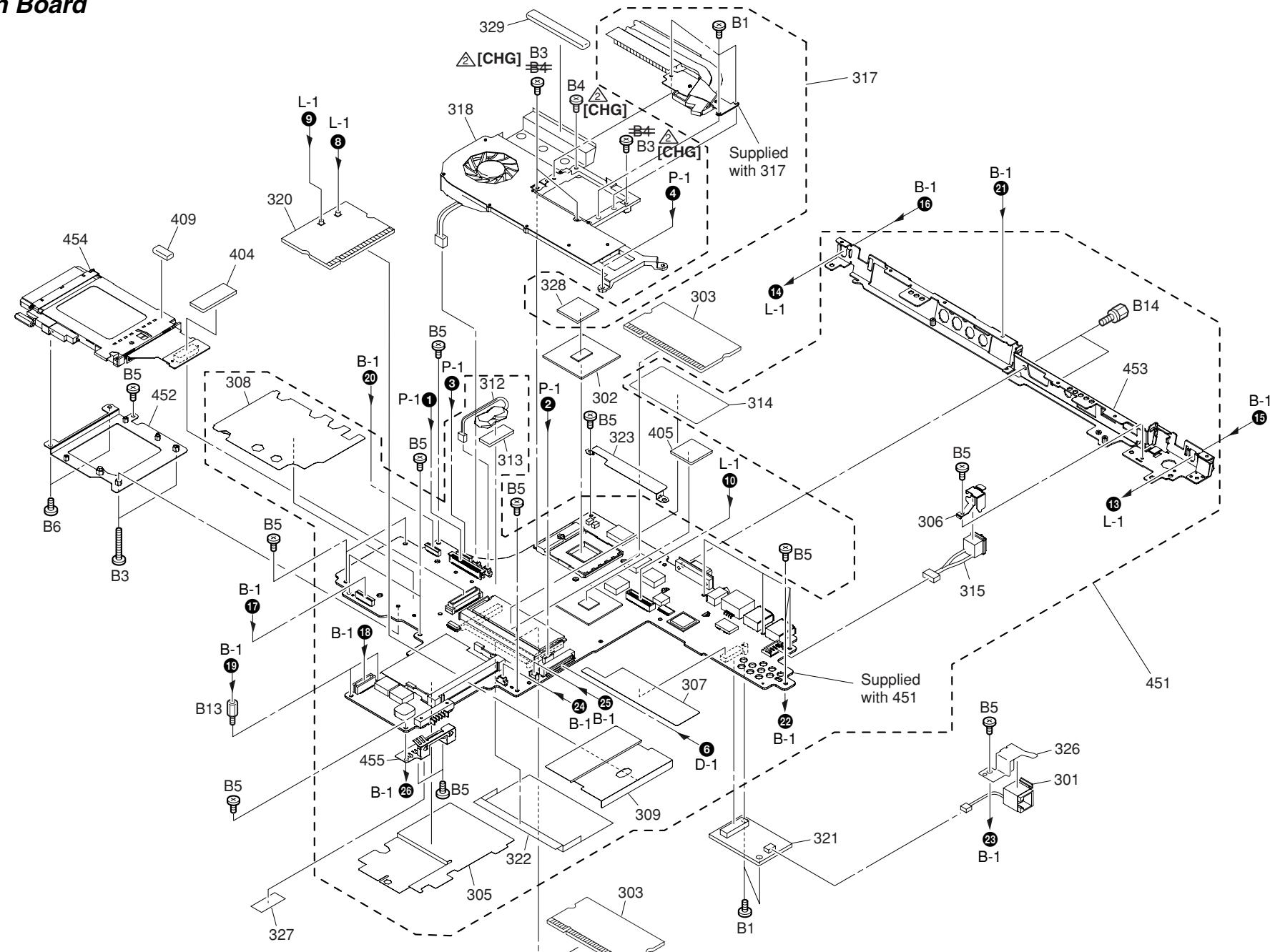
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- △[MA] • 機種名に(\*)がつくのは CTO モデルです。

△[MA] △[MA]

Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A115M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## M-1. Main Board



## ***M-1. Main Board***

Ref.No.	Part No.	Description
301	A-1058-426-A	CABLE, RJ11
305	4-682-945-01	SE1 2ND FAN MYLAR
306	X-2022-962-1	SE1 DC JACK HOLDER ASSY
307	4-682-478-01	SE1 ODD INSULATOR
308	4-682-942-01	SE1 PCMCIA MYLAR
309	4-682-475-01	SE1 SHEET MINI-PCI
312	1-756-038-11	BATTERY,NICKEL HYDROGEN
313	4-642-711-11	SHEET (BATTERY), ADHESIVE
314	4-668-307-01	SHEET DIMM
315	A-1058-414-A	HARNESS,DC
317	A-8119-893-A	SE1 FIN THERMAL MODULE
318	A-8119-892-A \$	SE1 THERMAL MODULE
321	1-761-606-14 #	CARD,MODEM
322	4-682-465-01	SE1 MYLAR DOOR DIMM
323	2-103-444-01	SE1 EMI SPRING FIN
326	4-683-063-01	RJ11 BKT
327	2-176-527-01	SE1 2ND FAN MYLAR-1
328	2-103-452-01	CPU THERMAL PAD
329	2-103-693-01	SE1P THERMAL MODULE GASKET
404	4-682-943-01	CARDBUS CONN ,SPONGE
405	4-676-423-01	VGA THERMAL PAD
409	2-103-445-01	SE1 GASKET CARD BOX
451	A-1071-840-A \$ #	COMPLETE PWB MBX-110 SEM
452	2-050-884-01	SEM BRACKET CARD BOX
453	X-2021-754-1	SEM BRACKET I/O ASSY
454	A-1067-143-A	PC-CARD(M),FLEXIBLE PRINT
455	X-2023-152-1	SEM EMI SPRING BATT-1 ASSY
B1	4-672-836-01	SCREW, M2 SPECIAL HEAD,EG GR
B3	4-672-834-41	SCREW, +B EG GRIP
B4	2-048-596-01	SCREW, +B EG GRIP
B5	4-672-836-11	SCREW, M2 SPECIAL HEAD,EG GR
B6	4-656-703-01	SCREW, M2 GRIP
B13	2-103-443-01	HEX2-5+7
B14	4-635-966-12	SCREW(HEX)

1) The DIP switch setting, refer to page 4-15 "DIP switch".

2) The CPU THERMAL PAD (Ref.328) cannot be re-used if it is removed once.  
When the FIN THERMAL MODULE (Ref.317) is removed, be sure to replace it with the new one.

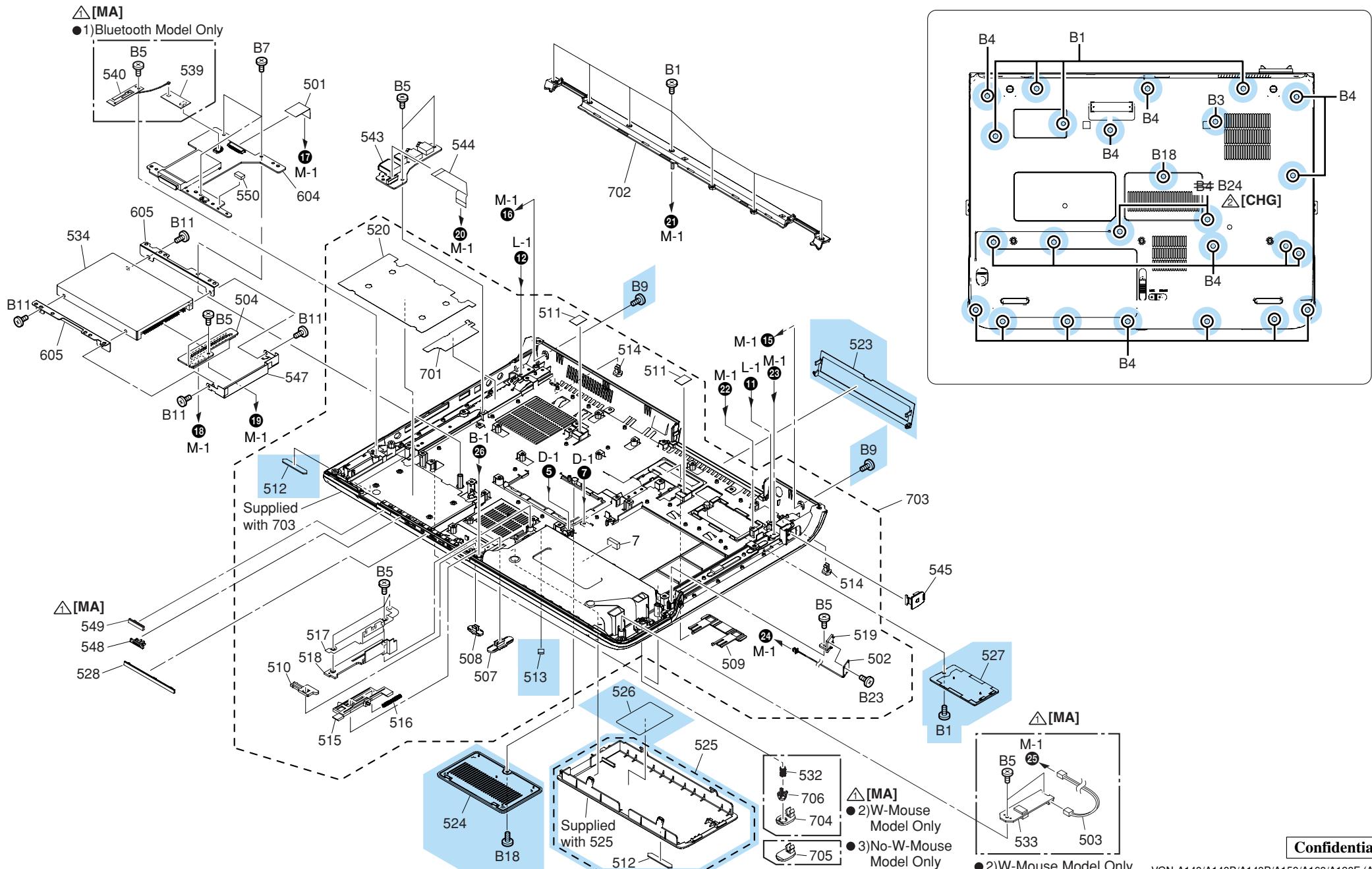
3) When change the CPU (Ref.302), refer to "5-2 Replacing the CPU" in CHAPTER 5.

1) DIP スイッチの設定は、4-15 頁「DIP Switch」を参照してください。

2) CPU THERMAL PAD (Ref.328) は、一度取り外したものを再利用することはできません。  
FIN THERMAL MODULE (Ref.317) をはずした場合には、必ず新しいものを交換してください。

3) CPU (Ref.302) を交換する際は、CHAPTER 5、「5-2 CPU の交換」を参照してください。

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- 機種名に(\*)がつくのは CTO モデルです。

**B-1. Bottom**

Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A15M/A15Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

### ***B-1. Bottom***

Ref.No.	Part No.	Description
7	4-682-423-01	SE1 SPONGE BT
501	A-1058-406-A	CABLE(26P), FLEXIBLE FLAT
502	A-1058-416-A	CABLE, ODD EJECT
504	A-8068-827-A \$	COMPLETE PWB CNX-247
507	4-682-454-01	SE1 15S BATT BUTTON
508	4-682-455-01	SE1 15S BATT BUTTON3
509	4-682-460-01	SE1 15S DOOR DOCK
510	4-682-457-01	SE1 BATT LOCK
511	4-683-040-01	SE1 DOCKING HOOK MYLAR
512	4-682-443-01	& SE1 FOOT FRONT
513	4-682-444-01	& SE1 FOOT FRONT CENTER
514	4-682-445-01	SE1 FOOT REAR
515	4-682-456-01	SE1 LATCH BATT
516	4-682-459-01	SE1 LATCH BATT SPRING
517	4-682-479-01	SE1 EMI SPRING BATT
518	4-682-458-02	SE1 LATCH LEVER
519	4-682-476-01	SE1 SW BRACKET
520	2-103-697-01	SE1P HDD MYLAR
523	X-4626-721-1	& SE1 DOOR I/O ASSY
524	X-4626-653-1	& SE1 DIMM DOOR ASSY
525	X-4626-720-1	& SE1 BATTERY DOOR ASSY
526	2-025-132-01	& LABEL BATTERY
527	4-682-466-01	& SE1 15S DOOR MODEM
543	A-8068-825-A \$	COMPLETE PWB CNX-245
544	A-1058-429-A	PWB(20P), FLEXIBLE PRINT
545	4-682-462-01	SE1 15S MODEM R
547	2-067-843-01	EMI SPRING HDD
550	2-159-787-01	SE1 SPONGE LENS
604	A-8068-829-A \$ #	COMPLETE PWB IFX-324
605	4-682-418-01	SE1 BRACKET HDD
701	2-050-888-01	SEM SHEET AUDIO BD
702	2-050-865-01	SEM DISPLAY BASE
703	X-2021-745-1	SEM BOTTOM CASE ASSY
B1	4-672-836-01	<&> SCREW, M2 SPECIAL HEAD,EG GRIP
B3	4-672-834-41	<&> SCREW, +B EG GRIP
B4	2-048-596-01	<&> SCREW, +B EG GRIP
B5	4-672-836-11	<&> SCREW, M2 SPECIAL HEAD,EG GRIP
B9	4-672-835-01	<&> SCREW, M2.6+B EG GRIP
B11	4-672-839-01	SCREW, M3x4
B18	4-672-834-21	<&> SCREW, +B EG GRIP
B23	3-254-029-11	SCREW, 2-4L
B24	4-672-834-71	SCREW, +B EG GRIP

Ref.No.	Part No.	Description	AM		EU		AO							
			A160	A150	A140*	A140B*	A140P*	A190F	A115Z	A115M	A19GP	A19LP	A19SP	A19TP
503	A-1058-408-A	CABLE, WIRELESS MOUSE			●	●	●							
528	4-682-449-01	SE1 LENS PANEL CTO (W/WL,W/BT)			●	●	●							
528	4-682-449-11	SE1 LENS PANEL CTO(W/WL,No-BT)	●	●	●	●	●	●	●	●	●	●	●	●
528	4-682-449-21	SE1 LENS PANEL CTO(No-WL,No-BT)			●	●	●							
704	2-050-871-01	SEM BUTTON COVER RF(W/W-Mouse)			●	●	●							
705	2-050-872-01	SEM PANEL RF CTO(No-W-Mouse)	●	●	●	●	●	●	●	●	●	●	●	●
706	2-050-873-01	SEM BUTTON RF(W/W-Mouse)			●	●	●							
532	4-682-583-01	SE1P SPRING RF KNOB(W/W-Mouse)			●	●	●							
533	1-796-949-11	USB RF MOUSE RECEIVER			●	●	●							
534	A-8116-402-A	\$ # ASSY HDD 60GB(I,40)(S)			●	●	●	●	●	●	●	●	●	●
534	A-1062-140-A	\$ # HDD (80GB,HTS548080M9AT00)(S)												
534	A-8117-058-A	\$ # ASSY HDD 80GB(H,40)(S)	●	●	●	●	●							
534	A-8117-059-A	\$ # ASSY HDD 40GB(H,40)(S)			●	●	●							
539	1-805-554-11	BLUETOOTH MODULE							●					
540	A-1058-407-A	CABLE,BT ANTENNA							●					
548	4-682-446-01	SE1 SWICH W LAN(W/WL)	●	●	●	●	●	●	●	●	●	●	●	●
549	4-682-448-01	SE1 ESCUSHION RECESS F(No-WL)			●	●	●							

△[MA] 1) The parts of Ref.539 and Ref.540 are used in the BLUETOOTH installation models.

▲ [MA] 2) Ref.503, 704, 706, 532 and Ref.533 are used only in the models supplied with the Wireless-Mouse.

△[MA] 1) Ref.539 と Ref.540 は、BLUETOOTH 搭載モデル用の部品です。

♪[MA] 2) Ref 503 704 706 532 533 は、Wireless-Mouse 付モデル用の部品です。

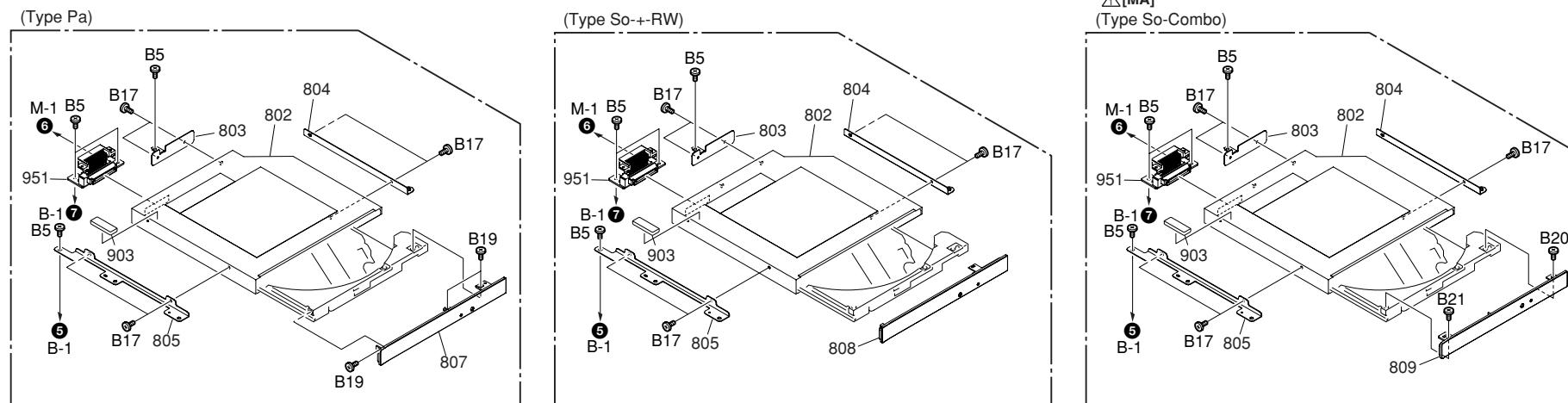
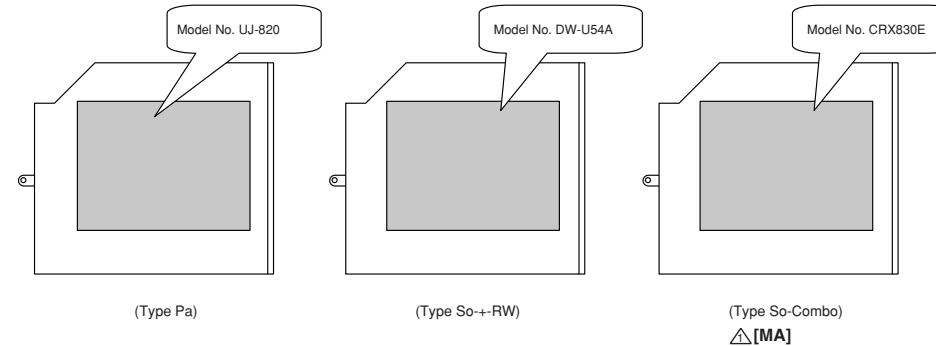
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## D-1. Optical Drive

### How to Use Parts Differently.

This series of product uses the three different types of optical drive (Pa type and So type). When replacing the optical drive, use the Pa type parts for the Pa type optical drive, and use the So type parts for the So type optical drive. Replace the peripheral parts of optical drive with the same type in the same way.

### [ How to identify the Pa and So types of parts ]



Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
 VGN-A115M/A115Z (EU)  
 VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## D-1. Optical Drive

Ref.No.	Part No.	Description
803	4-682-408-01	SE1 CD BRACKET BACK
804	4-682-406-01	SE1 CD BRACKET L
805	4-682-407-01	SE1 CD BRACKET R
903	2-102-385-01	SE1 ODD GASKET
951	A-1067-139-A \$	COMPLETE PWB CNX-267
B5	4-672-836-11	SCREW, M2 SPECIAL HEAD
B17	4-671-538-01	SCREW(M2x4), SPECIAL HEAD
B19	4-645-177-01	SCREW(M1.7x3.5), SPECIAL
B20	4-679-805-01	SCREW M1.7x2.5
B21	4-679-805-11	SCREW M1.7x5.5

Ref.No.	Part No.	Description	AM		EU		AO							
			A160	A150	A140*	A140B*	A140P*	A190F	A115Z	A115M	A19GP	A19LP	A19SP	A19TP
802	1-796-904-11	\$ # DVD+/-RW (UJ-820)	●	●	●	●	●	●	●	●	●	●	●	●
802	8-457-575-40	\$ # DRIVE, DVD DW-U54A-VS/T	●	●	●	●	●	●	●	●	●	●	●	●
802	8-457-270-10	\$ # RW DRIVE CRX830E-VN			●	●	●	●	●	●	●	●	●	●
807	X-4626-647-1	SE1 PCC UJDA820 COMBO BEZEL	●	●	●	●	●	●	●	●	●	●	●	●
808	X-4626-646-1	SE1 SONY DW U54A COMBO BEZEL	●	●	●	●	●	●	●	●	●	●	●	●
809	X-4626-645-1	SE1 SONY CRX830 COMBO BEZEL			●	●	●	●	●	●	●	●	●	●

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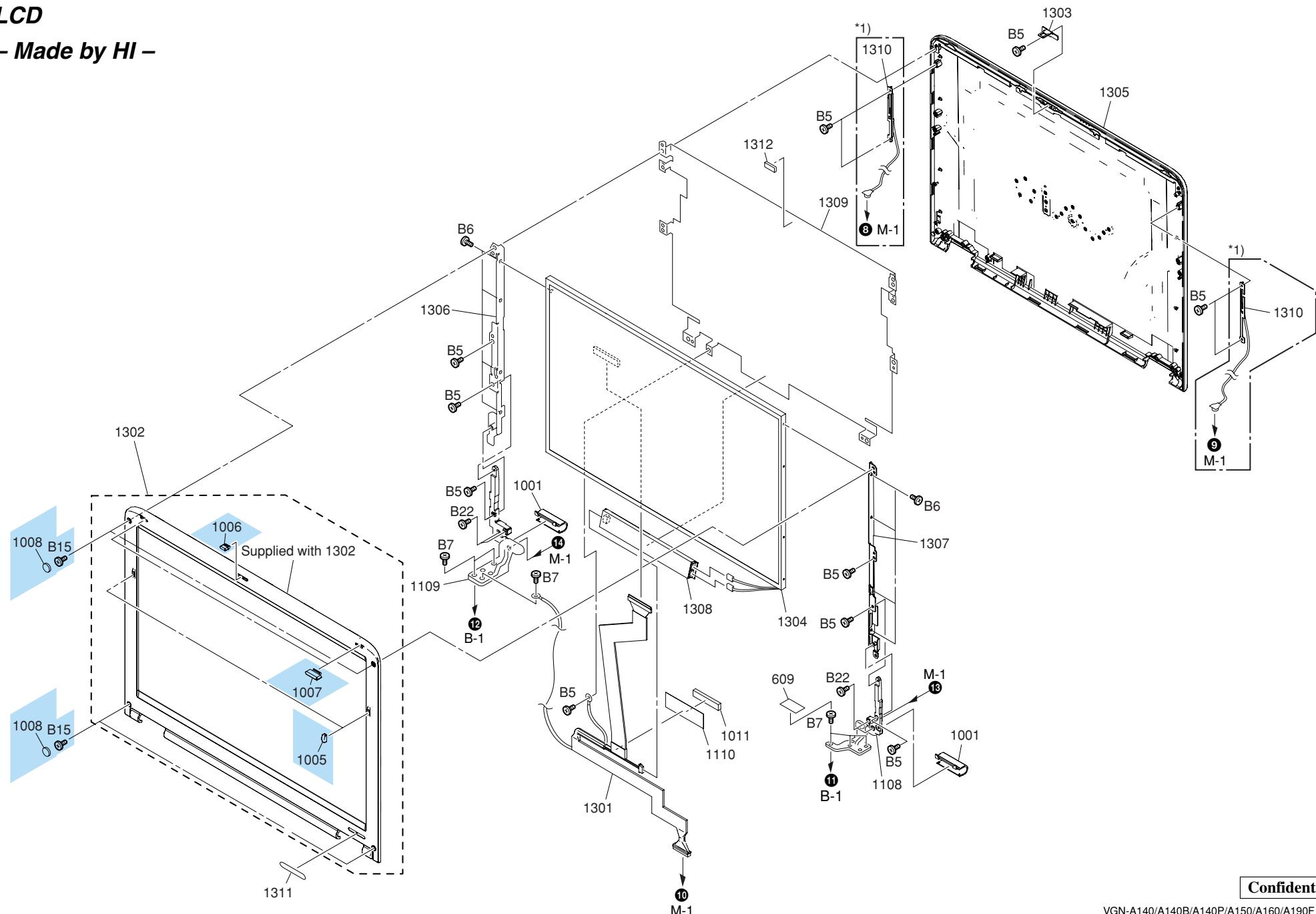
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## L-1. LCD

- Made by HI -



## L-1. LCD

## - Made by HI -

Ref.No.	Part No.	Description
609	4-672-493-01	COVER(SC)
1001	4-682-380-01	SE1 COVER HINGE
1005	4-682-397-01	& SE1 CUSHION LCD SIDE
1006	4-682-396-01	& SE1 CUSHION LATCH
1007	4-682-395-01	& SE1 CUSHION LCD
1008	4-682-398-01	& SE1 COVER SCREW
1011	2-024-790-01	SE1 GASKET AU LVDS DISPLAY
1108	4-682-405-01	SE1 HINGE R
1109	4-682-404-01	SE1 HINGE L
1301	A-1067-140-A	HARNESS, LCD FOR 15.4WXGA
1302	X-2021-749-1	SEM BEZEL DISPLAY ASSY
1303	2-050-879-01	SEM LCD HOOK
1304	A-1072-741-A \$ #	ASSY LCD(15.4WXGA)(H)(S)
1305	X-2021-750-1	SEM HOUSING DISPLAY ASSY
1306	2-050-880-01	SEM LCD BRACKET L
1307	2-050-881-01	SEM LCD BRACKET R
1308	1-478-040-11	INVERTER UNIT
1309	2-050-890-01	SEM LCD SHIELDING AL
1110	2-024-789-01	SE1 TAPE LVDS DISPLAY
1312	4-677-681-01	SR1 SPONGE DOOR BATTERY
B5	4-672-836-11	SCREW, M2 SPECIAL HEAD,EG GRIP
B6	4-656-703-01	SCREW,M2 GRIP
B7	4-644-637-21	GRIP M2 EG
B15	4-671-538-01	<&> M2x2,SPECIAL HEAD
B22	2-108-227-01	SCREW M2.6x8

Ref.No.	Part No.	Description	AM										EU		AO		
			A160	A150	A140*	A140B*	A140P*	A190F	A115Z	A115M	A19GP	A19LP	A19SP	A19TP	A17CP		
1310	A-1067-141-A	CABLE, WL ANTENNA FOR M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1311	2-109-730-11	LABEL ID 3050(U-CTO)															
1311	2-109-730-21	LABEL ID 3050(U-CTO)			●												
1311	2-109-730-31	LABEL ID 3050(U-CTO)				●											
1311	2-109-922-11	LABEL ID 3050(U)			●												
1311	2-109-922-21	LABEL ID 3050(U)				●											
1311	2-109-731-11	LABEL ID 3050(L)					●										
1311	2-109-926-11	LABEL ID 3050(E)						●									
1311	2-109-926-21	LABEL ID 3050(E)							●								
1311	2-109-931-11	LABEL ID 3050(I)								●							
1311	2-109-931-21	LABEL ID 3050(I)									●						
1311	2-109-931-31	LABEL ID 3050(I)										●					
1311	2-109-931-41	LABEL ID 3050(I)											●				
1311	2-109-871-11	LABEL ID 3050(C)													●		

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△[MA] • 機種名に(\*)がつくのは CTO モデルです。

1) The CABLE,WL ANTENNA FOR M(Ref.1310) is installed also in the models without Wireless LAN.

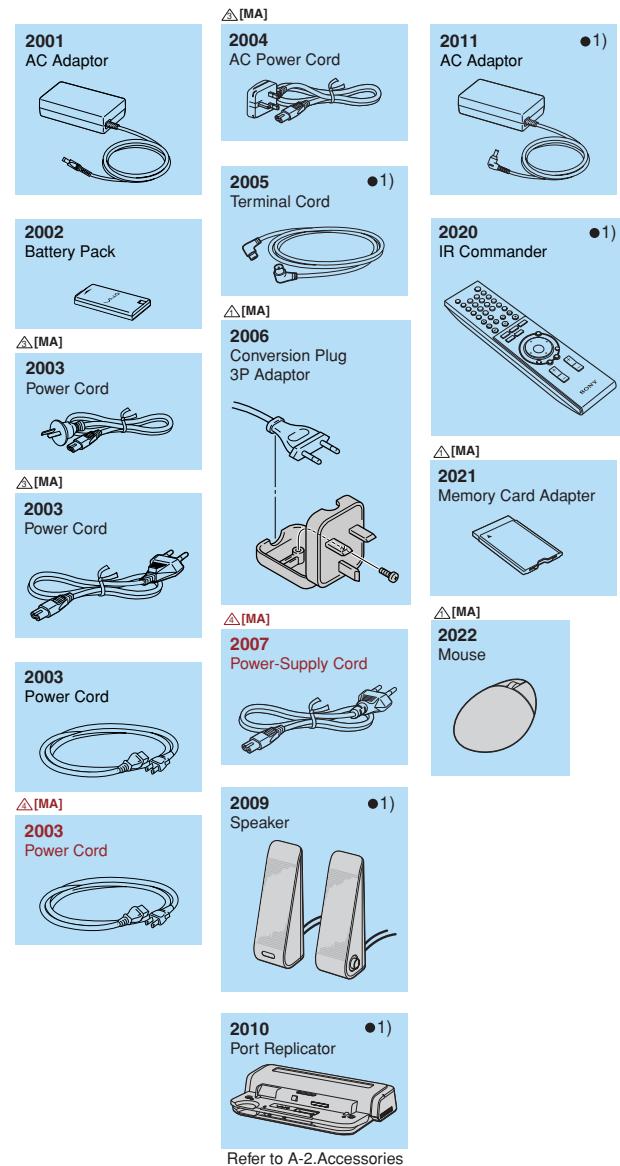
Refer to "5-3 Wiring the W-LAN Cable" in CHAPTER 5 to see how to wire the CABLE.

1) Wireless-LAN を搭載しないモデルにも、CABLE,WL ANTENNA FOR M (Ref.1310) が取りつけられています。

ケーブルの処理方法は CHAPTER 5、「5-3 Wiring the W-LAN Cable」を参照してください。

[MA] [MA]

## A-1. Accessories



Refer to A-2.Accessories

Ref.No.	Part No.	Description	AM		EU		AO						
			A160	A150	A140*	A140B*	A140P*	A190F	A115M	A19GP	A19LP	A19SP	A19TP
2001	1-477-205-71	& ADAPTOR, AC	●	●	●	●	●	●	●	●	●	●	●
2011	1-478-037-32	& ADAPTOR, AC	●	●	●	●	●	●	●	●	●	●	●
2002	A-1062-142-A	& BATTERY_9130PA_(U)(S)	●	●	●	●	●	●	●	●	●	●	●
2002	A-1062-143-A	& BATTERY_9130PA_(E)(S)	●	●	●	●	●	●	●	●	●	●	●
<b>2003</b>	1-555-074-32	& CORD, POWER	●	●	●	●	●	●	●	●	●	●	●
<b>2003</b>	1-575-131-61	& CORD, POWER	●	●	●	●	●	●	●	●	●	●	●
<b>2003</b>	1-757-562-21	& CORD, POWER	●	●	●	●	●	●	●	●	●	●	●
<b>2003</b>	1-782-476-22	& CORD, POWER	●	●	●	●	●	●	●	●	●	●	●
<b>2004</b>	1-823-935-51	& CORD, AC POWER	●	●	●	●	●	●	●	●	●	●	●
<b>2005</b>	1-829-239-11	& CORD, F TERMINAL WITH RF	●	●	●	●	●	●	●	●	●	●	●
<b>2006</b>	1-770-019-12	& ADAPTOR, CONVERSION PLUG 3P	●	●	●	●	●	●	●	●	●	●	●
<b>2007</b>	1-823-947-32	& POWER-SUPPLY CORD	●	●	●	●	●	●	●	●	●	●	●
<b>2008</b>	1-816-429-12	& PHONE PLUG,(GB)	●	●	●	●	●	●	●	●	●	●	●
2009	A-8120-057-A	& ASSY SPEAKER	●	●	●	●	●	●	●	●	●	●	●
2010	-	PORT REPLICATOR	●	●	●	●	●	●	●	●	●	●	●
2020	1-478-300-21	& IR COMMANDER RM-GP5U	●	●	●	●	●	●	●	●	●	●	●
2021	1-478-615-11	& MEMORY CARD ADAPTER	●	●	●	●	●	●	●	●	●	●	●
2022	1-796-824-31	& MOUSE (SLV)	●	●	●	●	●	●	●	●	●	●	●
-	2-148-349-11	& MANUAL(XP),INSTRUCTION	●	●	●	●	●	●	●	●	●	●	●
-	2-148-349-21	& MANUAL(XP),INSTRUCTION	●	●	●	●	●	●	●	●	●	●	●
-	2-148-349-41	& MANUAL(XP),INSTRUCTION	●	●	●	●	●	●	●	●	●	●	●
-	2-148-350-31	& MANUAL(XP),INSTRUCTION	●	●	●	●	●	●	●	●	●	●	●
-	2-177-445-01	& QUICK START, 3050(U)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-446-01	& QUICK START, 3050(LA)	●	●	●	●	●	●	●	●	●	●	●
-	2-024-877-01	& GETTING STARTED BOOKLET 2750	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-11	& HW SPECS 3050 WXPH(GB,NL)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-21	& HW SPECS 3050 WXPH(CH,DE)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-31	& HW SPECS 3050 WXPH(BE,CH,FR)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-41	& HW SPECS 3050 WXPH(IT)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-51	& HW SPECS 3050 WXPH(ES)	●	●	●	●	●	●	●	●	●	●	●
-	2-177-173-61	& HW SPECS 3050 WXPH(NL,BE)	●	●	●	●	●	●	●	●	●	●	●

▲[MA] ▲[MA]

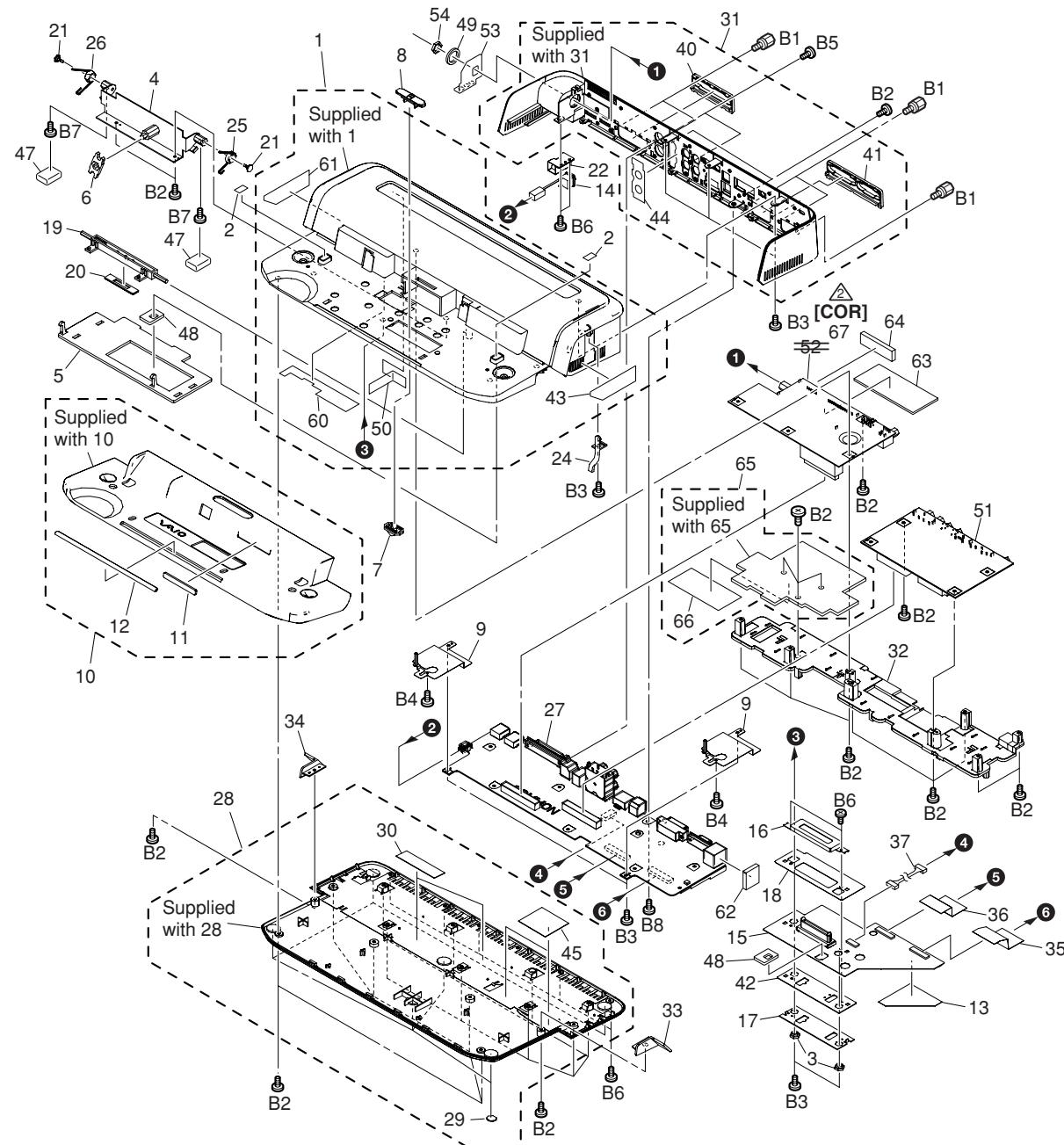
●1) The Ref.2005,2009,2010,2011,2020 are included only in the models supplied with the Port Replicator.

●1) Ref.2005,2009,2010,2011,2020 は、Port Replicator 同梱機種のみについてきます。

▲[MA] • This model that is accompanied by asterisk (\*) is the CTO model.

▲[MA] • 機種名に(\*)がつくのは CTO モデルです。

## ***A-2. Accessories***



## A-2. Accessories

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	X-4626-667-1	SUB HOUSING UPPER BPR ASSY	50	2-103-318-01	APR FOIL AL 6x24
2	4-682-689-01	BPR MYLAR FOOT	51	A-1059-668-A	COMPLETE PWB IFX-312
3	4-682-693-01	BPR CAP BOSS DOCK CONN	52	A-1059-662-A	<del>COMPLETE PWB ENX-29(U) △[DEL]</del>
4	4-682-694-01	BPR BRACKET ARM TRAY	53	4-682-722-01	APR BRACKET TUNER
5	4-682-695-01	BPR HOOK FRONT	54	4-680-482-01	RF CONN,NUT
6	4-682-697-01	BPR ARM SLIDE HOOK YOKO	60	2-048-434-01	BPR MYLAR BRACKET ARM TRAY
7	4-682-698-01	BPR KNOB HOOK RELEASE	61	2-103-313-01	BPR MYLAR TOP SHIELD L
8	4-682-699-01	BPR KNOB HOOK RELEASE BOTTON	62	2-148-338-01	BPR SPONGE USB 2 PORT
9	4-682-700-01	BPR PIN GND	63	2-148-335-01	APR THERMAL PAD TUNER BIG
10	X-4626-672-1	SUB HOUSING TRAY BPR ASSY	64	2-148-336-01	APR THERMAL PAD TUNER SIDE
11	4-682-721-01	& BPR CUSHION REAR	65	X-2022-558-1	ASSY SUB HEATSINK TUNER
12	4-682-720-01	& BPR CUSHION FRONT	66	2-148-337-01	APR ADHESIVE HEATSINK TUNER MO
13	2-048-435-01	BPR MYLAR FPC	67	A-1059-667-A	COMPLETE PWB ENX-29(U)
14	A-1058-415-A	HARNESS, DC	B1	4-635-966-21	SCREW (HEX)
15	A-1059-670-A	COMPLETE PWB CNX-271	B2	4-671-504-11	<&> SCREW,TAPPING+P2.6
16	4-682-690-01	BPR PLATE DOCK CONN UPPER	B3	3-906-376-01	SCREW(2.6x6)
17	4-682-691-01	BPR PLATE DOCK CONN BOTTOM	B4	4-639-112-31	SCREW M2X4
18	2-048-436-01	BPR MYLAR SHIELDING	B5	4-671-538-01	SCREW(M2x4),SPECIAL HEAD
19	X-2021-564-1	BPR ASSYSUB CAM SLIDE HOOK	B6	4-641-726-21	<&> SCREW(M2),SPECIAL HEAD
20	2-048-437-01	BPR SPONGE CAM SLIDE HOOK	B7	4-671-538-01	SCREW(M2x4),SPECIAL HEAD
21	4-682-709-01	BPR ARM TRAY PIN	B8	4-635-301-11	SCREW M3X4
22	4-682-712-01	BPR BRACKET DC			
24	4-682-708-01	BPR LIGHT GUIDE LED			
25	4-682-714-01	BPR SPRING TRAY R			
26	4-682-715-01	BPR SPRING TRAY L			
27	A-1059-661-A	COMPLETE PWB CNX-250A			
28	X-4626-669-1	SUB HOUSING BOTTOM BPR ASSY			
29	4-682-703-01	& BPR RUBBET FOOT			
30	2-048-440-01	APR MYLAR B2B CONNECTOR			
31	X-4626-673-1	SUB COVER IO AV1 APR1 ASSY			
32	X-4626-671-1	SUB FRAME BPR ASSY			
33	4-682-710-01	BPR COVER RIGHT HOUSING UPPER			
34	4-682-711-01	BPR COVER LEFT HOUSING UPPER			
35	A-1058-418-A	PWB (60P), FLEXIBLE PRINT A			
36	A-1058-419-A	PWB (60P), FLEXIBLE PRINT B			
37	A-1058-420-A	CABLE, ETHER			
40	4-682-728-01	APR COVER BRACKET D-SUB-1			
41	4-682-729-01	APR COVER BRACKET D-SUB-2			
42	2-048-439-01	BPR ENFORCE PLATE			
43	2-103-312-01	MYLAR TOP SHIELD R			
44	2-103-240-01	MYLAR RCA 1PIN			
45	2-103-314-01	MYLAR 34x40			
47	2-103-316-01	GASKET 7x10x2			
48	2-103-317-01	MYLAR HOOK FRONT			
49	4-680-501-01	RF,CONN WASHER			

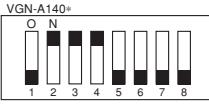
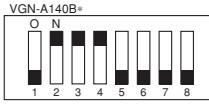
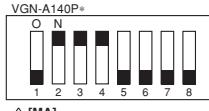
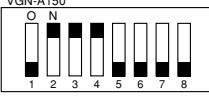
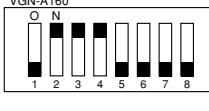
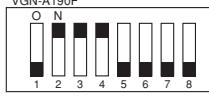
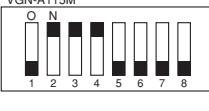
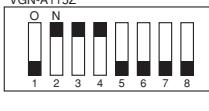
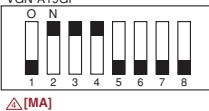
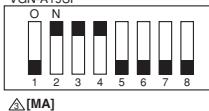
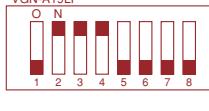
Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
 VGN-A15M/A15Z (EU)  
 VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## DIP Switch

The DIP switch setting is following table.

DIP スイッチの設定は下の表をご参照ください。

AM	△[MA] VGN-A140*	△[MA] VGN-A140B*	△[MA] VGN-A140P*
			
			
EU	△[MA] VGN-A115M	△[MA] VGN-A115Z	
			
AO	△[MA] VGN-A19GP	△[MA] VGN-A19SP	△[MA] VGN-A19LP
			
	△[MA] VGN-A17CP	△[MA] VGN-A19TP	

△[MA] The DIP switch setting is different depending the types of LCD.

△[MA] Set the DIP switch of the CTO model in accordance with the [FOR CTO MODEL].

△[MA] DIP スイッチの設定は、LCD の種類によって異なります。

△[MA] CTO モデルは、【FOR CTO MODEL】の表に従って DIP スイッチを設定してください。

Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)

VGN-A115M/A115Z (EU)

VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

# CHAPTER 5.

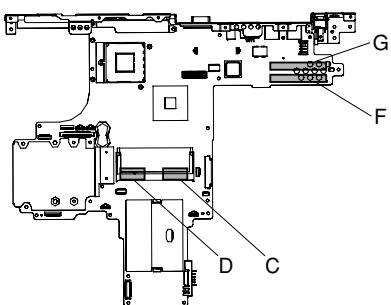
## OTHERS

### 5-1. The barcode label

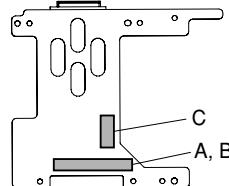
The hatched portion of the barcode label is used as the repair data.

バーコード ラベルの網掛け部は、修理データとして使用しています。

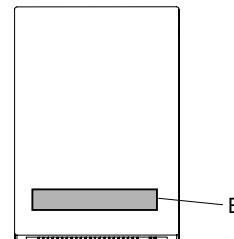
[ MBX-110 Board ] (Side A)



[ IFX-335/IFX-324 Board ] (Side B)

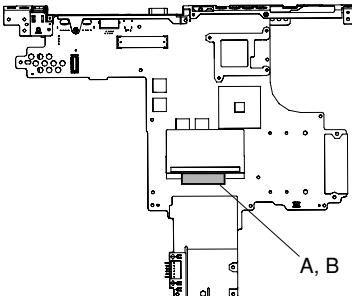


[ HDD ] (Made by Hi) (Bottom)

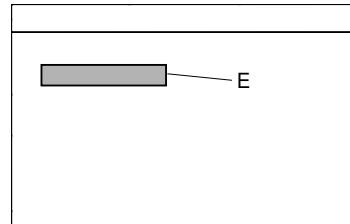


A	: Parts No.
B	: Serial No.
C	: Revision No.
D	: Product code
E	: Maker Barcode
F	: Global User ID (iLink)
G	: Mac Address
[ ]	: Barcode

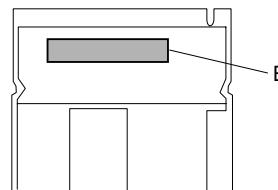
[ MBX-110 Board ] (Side B)



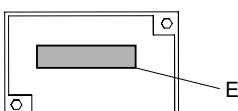
[ LCD Unit ] (Rear)



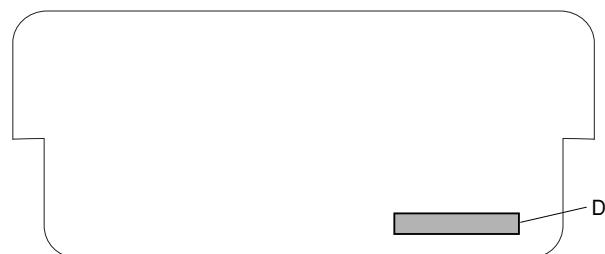
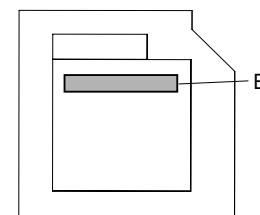
[ Wireless LAN Card ]



[ Modem Card ]



[ Optical Drive ] (Top)



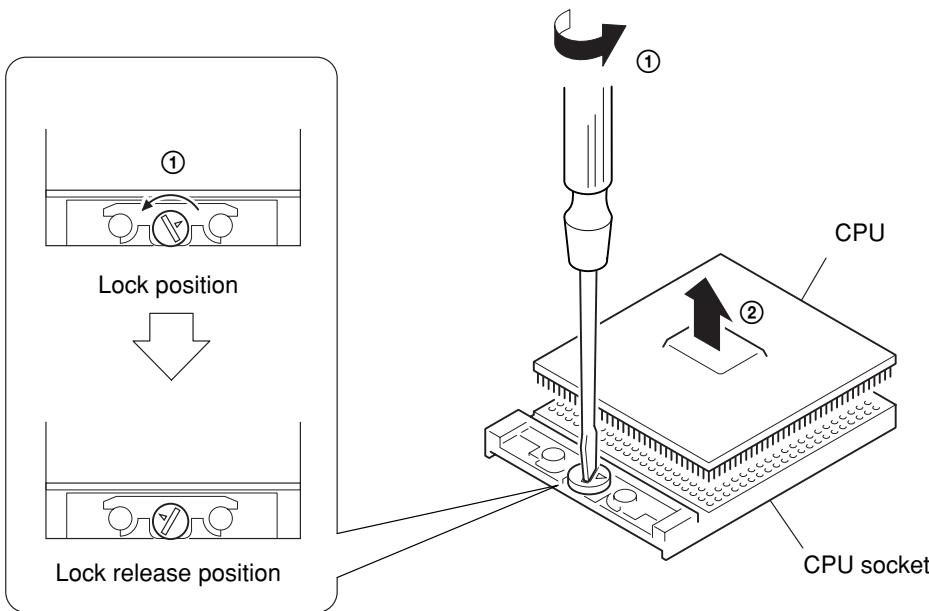
Confidential

VGN-A140/A140B/A140P/A150/A160/A190F (AM)  
VGN-A15M/A115Z (EU)  
VGN-A17CP/A19GP/A19LP/A19SP/A19TP (AO)

## 5-2. Replacing the CPU

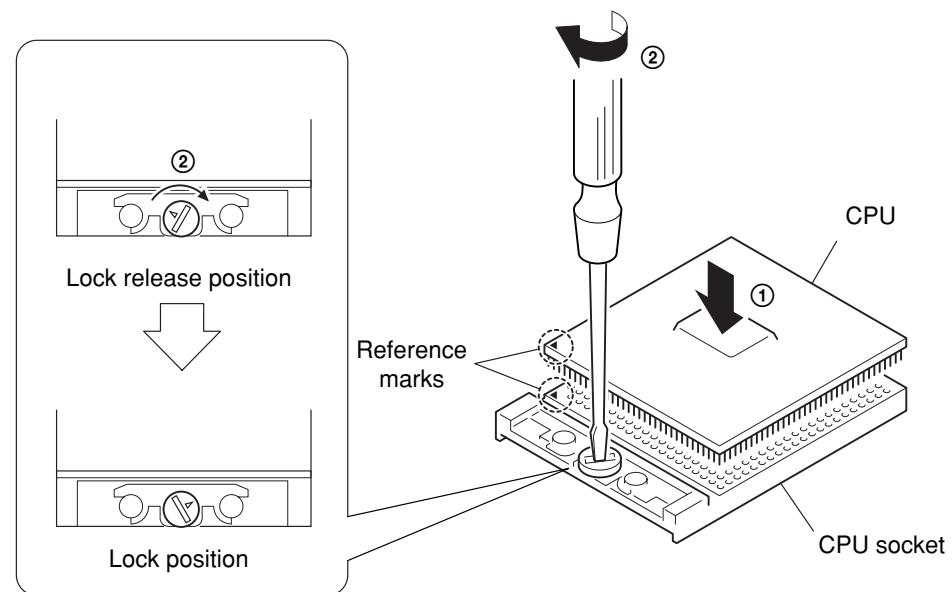
### 1. Removing the CPU

- ① Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock release position.
- ② Pull the CPU gently upward to lift it out of the CPU socket.



### 2. Installing the CPU

- ① Align the triangle reference mark of the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
- ② While pressing the two positions marked by O, insert the flat head (-) screwdriver into the specified position and rotate the screwdriver to the LOCK position.



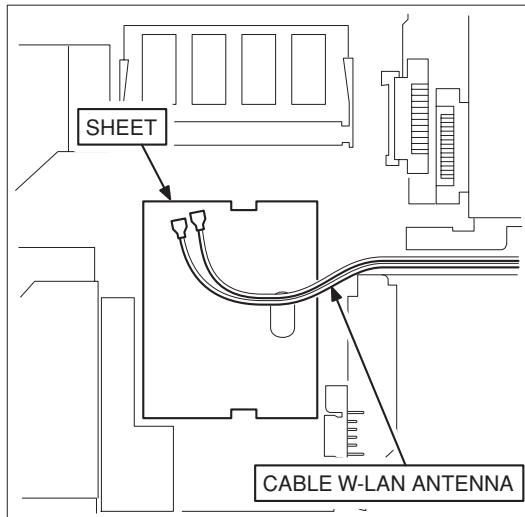
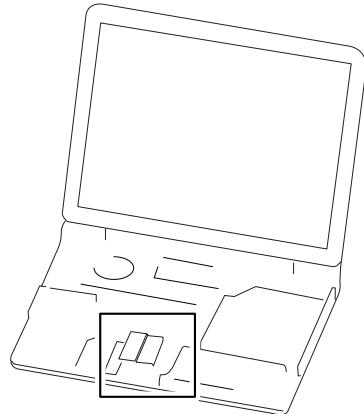
#### NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

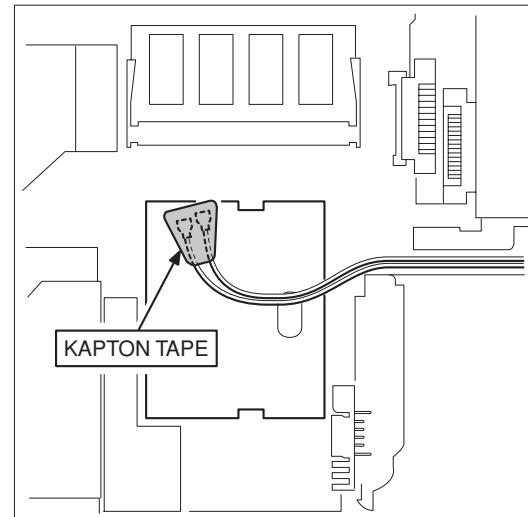
### 5-3. Wiring the W-LAN Cable

\* The CABLE W-LAN ANTENNA is installed also in the models without Wireless LAN.

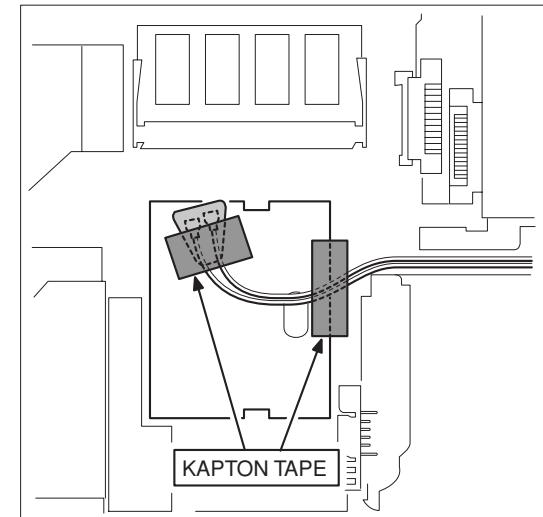
Refer to the instructions below to see how to wire the CABLE.



1. Wire the CABLE W-LAN as shown in the picture.



2. Attach the KAPTON TAPE to secure the terminal of the CABLE such that it winds around secure the terminal of the CABLE.



3. Attach the KAPTON TAPE on the top of the sheet and secure the CABLE.

## List of VGN-A Series (As of August, 2004)

Service Manual	Model Name			
	J	AM	EU	AO
9-876-367-XX	VGN-A50B	VGN-A130*	VGN-A115B	VGN-A11C
	VGN-A60B	VGN-A130P*	VGN-A115S	VGN-A13CP
	VGN-A60PS*	VGN-A170*	VGN-A117S	VGN-A15CP
	VGN-A60S*	VGN-A170P*	VGN-A195EP	VGN-A15GP
	VGN-A70P	VGN-A190	VGN-A195HP	VGN-A15LP
	VGN-A70PS*		VGN-A197VP	VGN-A17GP
	VGN-A70S*		VGN-A197XP	VGN-A17LP
				VGN-A17SP
				VGN-A17TP
				VGN-A19CP
9-876-374-XX		VGN-A140*	VGN-A115M	VGN-A17CP 
		VGN-A140B*	VGN-A115Z	VGN-A19GP 
		VGN-A140P*		VGN-A19LP 
		VGN-A150		VGN-A19SP
		VGN-A160		VGN-A19TP
		VGN-A190F		

\* : CTO Model

 : Additional Models

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## Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver.1	2004.07.08	First Edition	
-02	Ver.2	2004.07.21	 <b>Front Page (Model Line Up), Page 3, Page 1-1_1-3, Page 4-1, Page 4-3, Page 4-5_4-9, Page 4-11_4-12, Page 4-15, Back Cover</b>	N2004_080AK
-03	Ver.3	2004.07.23	 <b>Page 4-4, Page 4-6_4-7, Page 4-13_4-14</b>	N2004_084CK
-04	Ver.4	2004.08.09	 <b>Front Page (Model Line Up), Page 1-1, Page 4-1, Page 4-3, Page 4-5, Page 4-7, Page 4-9, Page 4-11 Page 4-12, Page 4-15, Back Cover</b>	N2004_090AK
-05	Ver.5	2004.08.24	 <b>Front Page (Model Line Up), Page 1-1, Page 4-1, Page 4-3, Page 4-5, Page 4-7, Page 4-9, Page 4-11 Page 4-12, Page 4-15, Back Cover</b>	N2004_097AK
			< Remarks >	